3.0   ANALYSIS OF FUTURE TRANSPORTATION NEEDS

3.1 TRAFFIC PROJECTIONS

Traffic projections for the year 2025 were prepared for the MATAPS study to identify future capacity or deficiencies, and to provide future traffic information for decision-making by state, county and city staff, and officials, and for businesses and residents.

A variety of data sources and methods were used to arrive at the 2025 projections for the highway and street segments within the study area. These include regional population growth trends, historic traffic growth trends, and consideration of anticipated highway and street system changes. In addition, traffic volume projections were reviewed from the following studies:

- TH 169 Interregional Corridor Study
- TH 169 Intersections Study
- TH 169 Minnesota River Bridge Replacement Study
- TH 14 Corridor Study
- TH 14 North Mankato Traffic Needs Study
- TH 22 Corridor Study
- BEC CSAH 90 (South Route) Study
- Stadium Road Traffic Study
- MATAPS – Northeast Area Study

As a first step, population and development trends were established through a review of census data and discussions with local planning officials. Then, 1986 to 2002 historical traffic counts for logical roadway segments were gathered by the partners from existing Mn/DOT traffic count maps and other traffic count sources (Appendix A). Traffic volume inconsistencies were noted and investigated. Many of these inconsistencies were due to traffic pattern changes caused by construction activities, opening of new roadway links (TH 22) or the expansion of major traffic generators (River Hills Mall Area). These major events were considered when reviewing traffic growth patterns and developing future traffic projections.

Three traffic projection methods were applied to historical volumes: compounded growth rate, linear regression and vehicles-per-year to the different highway and street segments in the study area. In general, the three methods for computing traffic growth provided a range of projected volumes: compound rates being more representative of low-volume, fast-growing roadway segments, vehicles-per-year projections being more indicative of growth in higher-volume, more mature areas, and linear regression growth being representative of segments that may have substantial variation in traffic volumes over time. Growth projections were adjusted to reflect anticipated development trends and potential for traffic diversions to new links. Potential development areas were identified through discussions with local officials and segments were identified as being in high, medium or low growth areas. The 2025 traffic projections for individual segments in the study area are shown in Appendix A.

Projected traffic volumes reflect a region-wide level of analysis. Traffic volumes on roadways or streets within specific development areas may change, depending on the development densities. For this reason, specific study area forecasts should be completed when developing individual improvement projects. In addition, the partners should periodically review the land use and development/growth trends so that projections can be adjusted.

3.2 FUTURE CONGESTION

An analysis was done to identify future transportation capacity deficiencies. This information is normally used to either plan additional capacity improvements or to manage facilities more effectively through access controls, right-of-way preservation, setback requirements, and/or land use and development controls. The analysis followed the same procedure described in the existing conditions congestion analysis, except that 2025 daily traffic projections were compared with the daily volume thresholds. The analysis assumed the following capacity improvements to the system:

- Extension of Victory Drive to BEC CSAH 3/TH 14 interchange – four-lane section

Eighteen street/highway segments were identified by this analysis as congested segments and 28 segments were identified as being near congestion. These segments are shown in Figure 10. The congested segments are listed below.

Route [1]	Termini [1]
TH 14	NC CSAH 17 to NC CSAH 41
Lee Boulevard	Roe Crest to Lor Ray Drive
Lor Ray Drive	NC CSAH 6 to Howard Drive
Lor Ray Drive	James Drive to Lee Boulevard
Belgrade Avenue	Lee Boulevard to Range Street
Riverfront Drive	TH 169 to Stoltzman Road
Riverfront Drive	Madison Avenue to Lime Street
BEC CSAH 16 (Stolzman Road)	Pleasant Street to Stadium Road
BEC CSAH 60 (Stadium Road)	Warren Street to Monks Avenue
Warren Street	Birchwood Street to Cedar Street
Cedar Street	Warren Street to Highland Avenue
Highland Avenue	Cedar Street to Val Imm Drive
Monks Avenue	Balcerzak Drive to Glenwood Avenue
Glenwood Avenue	Monks Avenue to Val Imm Drive
Madison Avenue	Riverfront Drive to 7th Street
Adams Street	Sioux Road to TH 22
TH 22	Adams Street to TH 14
BEC CSAH 17	TH 22 to BEC CSAH 86

(1) BEC = Blue Earth County, NC = Nicollet County, LC = Le Sueur County

Figure 10 – Future Congestion Levels

The capacity analysis is a planning-level tool that identifies potential problems based on the facility type and future volume projections. It is also important to remember that a segment may be shown as congested or near congestion, but this is only an indication of a potential problem. Some segments may have little to no access and relatively little cross traffic, which can result in the ability of the facility to accommodate higher volumes. As long as access remains limited, it is likely that the roadways will operate better than the analysis would indicate. Glenwood Avenue, from Monks Avenue to Fifth Street is an example of this situation. The MATAPS '96 Plan shows this segment as uncongested from Monks Avenue to Division Street, and as near congested from Division Street to Fifth Street. The 2025 level of service analysis shows volumes on this roadway that suggest a congested designation; however, little congestion is evident on this segment and it is likely that it will continue to operate in an uncongested manner. While the capacity analysis identifies potential problem areas, it is recommended that additional traffic information be reviewed to confirm operational problems as specific improvements or operational changes are being considered for implementation. This would include the evaluation of peak hour volumes, directional splits, and a review of actual development and growth patterns for the area.